



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/581,399

07/03/2007

Christine Kienhofer

1549.009

3737

4617 7590 01/27/2012  
LEVISOHN, BERGER, LLP  
11 BROADWAY, Suite 615  
NEW YORK, NY 10004

EXAMINER

TOLAN, EDWARD THOMAS

ART UNIT

PAPER NUMBER

3725

NOTIFICATION DATE

DELIVERY MODE

01/27/2012

ELECTRONIC

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

PBERGER@LLBL.COM  
trotberg@llbl.com  
wleeruggiera@llbl.com

<b>Office Action Summary</b>	<b>Application No.</b> 10/581,399	<b>Applicant(s)</b> KIENHOFER ET AL.	
	<b>Examiner</b> EDWARD TOLAN	<b>Art Unit</b> 3725	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 November 2011.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on \_\_\_\_; the restriction requirement and election have been incorporated into this action.
- 4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 5) ☒ Claim(s) 1-20 is/are pending in the application.
- 5a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 6) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 7) ☒ Claim(s) 1-20 is/are rejected.
- 8) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 9) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 10) ☐ The specification is objected to by the Examiner.
- 11) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)         | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____.                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)         | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date ____.   | 6) <input type="checkbox"/> Other: ____.                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 19 and 20 rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 19 and 20 fail to limit claim 1 as they are directed to an event that may happen in the future and cannot be read into a method of forming a drive shaft.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7,9-14 and 17-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Takehara et al. (6,038,771). Takehara discloses a method of forming a tubular product (figs. 1E,1F) which is part of a drive and linkage mechanism for a steering linkage of a motor vehicle, comprising a first section (22) with a first diameter equal to a starting workpiece (21) diameter (col. 4, lines 36-38) and a second section (25) with a second diameter smaller than the first diameter and a transition section (24) in which a diameter diminishes from the first diameter to the second diameter. The

Art Unit: 3725

transition section (24) is provided with an annular bead (32, fig. 2B) that coaxially surrounds a longitudinal axis of the tubular product. The tube blank (21) is reshaped by cold forging (col. 4, line 36). As seen in fig. 2B, annular bead (32,32A) is formed at an outer and an inner side of the transition section (24), extending along a whole circumference of the transition section without interruption. Takehara also discloses beading (fig. 2C,5A,5B) to form various grooved (fig. 5A) and embossed (fig. 5B) features that are continuous (fig. 7A,7B) or interrupted patterns (fig. 7C,7D). Takehara discloses bead rolling or swaging (col. 5, lines 38-41) and pressing (fig. 6C,6D) to form corrugations (35-1,35-2). The pressing depth is about 0.3mm (col. 7, lines 47-48).

Regarding claim 14, fig. 2b shows a parallel force in that die (300) is slanted in order to form the bead (32) and a longitudinal section of the tubing adjacent thereof. Regarding claim 17, Takehara discloses a counter bearing (20).

Claims 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Oguma (6,419,536). Oguma discloses a drive shaft (fig. 2) having sections of greater diameter (79,74) with a bead (82,84) at either end of a tapering diameter section (80).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takehara in view of (Clark 3,564,896). Takehara does not disclose cutting (chip removing) processing of the transition section. Clark teaches cold or hot swaging of a drive shaft and teaches that a largest (32) and smallest diameter (37) are separated by a gradually tapering transition section (34,35,36). Beaded areas comprising stepped faces (49,61) are ground in a chip removing operation (col. 5, lines 49-55) to form them to specified tolerances. It would have been obvious to one skilled in the art at the time of invention to form the beaded areas of Takehara by cutting as taught by Clark in order to form the beads to a close tolerance.

Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takehara in view of Troughton et al. (4,921,116). It appears that Applicant is claiming a stretching or stretch drawing operation. Takehara does not disclose a purely parallel forming force component. Troughton teaches a stretching process to form a tubular blank into a product having tapered areas (26) and spaced beads (18,19) It would have been obvious to one skilled in the art at the time of invention to stretch draw areas of the tube of Takehara as taught by Troughton in order to stretch and expand a tube area to form outwardly projecting beads and tapered sections adjacent to the beads.

### ***Response to Arguments***

Applicant's arguments filed 11-23-2011 have been fully considered but they are not persuasive. The rejection of the first Office Action using Takehara et al. is repeated. Applicant has provided an amendment to claim 1 that sets forth what can possibly

Art Unit: 3725

happed to a drive shaft in an event of a collision in an intended use situation. The Examiner's position is that this is pure speculation and cannot be read into claims that are a method of forming a tubular drive shaft having a bead.

A beaded, corrugated area portion is a portion that tends to fail and fracture during impact as it is a zone of weakness as taught by the newly cited reference to Gaukel (5,902,186).

### ***Conclusion***

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to EDWARD TOLAN whose telephone number is (571)272-4525. The examiner can normally be reached on M-F.

Art Unit: 3725

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dana Ross can be reached on 571-272-4480. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Edward Tolan/  
Primary Examiner, Art Unit 3725